**LNA, 20 to 28GHz**

**Model:** BZ-20002800-221033-152020

### Features
- Noise Figure ≤ 2.2 dB
- Unconditionally Stable at all temperatures
- Internally Regulated DC Voltage
- 50 Ohm Matched Input/Output
- Field Replaceable 2.92mm K connectors
- Excellent Group Delay and Phase Linearity
- 0.009 inches diameter RF In/Out feed through
- Operating Temp. -55 C to +85 C
- 3 Year Warranty

### Options
- Optimized Performance over Selected Bandwidth
- Internally DC Block Input (Output DC Block Standard)
- Hermetically Sealed Package
- Improved Gain Flatness
- Improved IN and OUT VSWR
- Gain and Phase matching
- Lower Noise Figure

### Specifications (23 °C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>20</td>
<td>-</td>
<td>28</td>
<td>GHz</td>
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<tr>
<td>Noise Figure*</td>
<td>-</td>
<td>2.0</td>
<td>2.2</td>
<td>dB</td>
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<tr>
<td>Gain</td>
<td>33</td>
<td>35</td>
<td>-</td>
<td>dB</td>
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<tr>
<td>Gain Flatness (+/-)</td>
<td>-</td>
<td>± 1.0</td>
<td>± 1.5</td>
<td>dB</td>
</tr>
<tr>
<td>P1 Output Power</td>
<td>+10</td>
<td>+11</td>
<td>-</td>
<td>dBm</td>
</tr>
<tr>
<td>Input VSWR</td>
<td>-</td>
<td>-</td>
<td>2.0:1</td>
<td></td>
</tr>
<tr>
<td>Output VSWR</td>
<td>-</td>
<td>-</td>
<td>2.0:1</td>
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<tr>
<td>Operating Temperature</td>
<td>-55</td>
<td>-</td>
<td>+85</td>
<td>°C</td>
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<tr>
<td>Non-Operating Temp Range</td>
<td>-65</td>
<td>-</td>
<td>+85</td>
<td>°C</td>
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<tr>
<td>RF Input Power (no-damage)</td>
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<td>-</td>
<td>+13</td>
<td>dBm</td>
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<tr>
<td>Humidity (non-condensing)</td>
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<td>-</td>
<td>95</td>
<td>%</td>
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<tr>
<td>Voltage</td>
<td>+8</td>
<td>+12</td>
<td>+15</td>
<td>VDC</td>
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<tr>
<td>Current</td>
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<td>190</td>
<td>mA</td>
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<td>Input Impedance</td>
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<td>Ohms</td>
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<td>RF Connector</td>
<td>2.92mm - Female</td>
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<tr>
<td>Dimensions</td>
<td>29.9 x 18.7 x 7.6</td>
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</tbody>
</table>

*S Noise Source used for measurement from 18GHz to 42 GHz is HP346C-K01.
NF Uncertainty (approx. 0.3 dB). 0.2 dB due to ENR of HP 346C-K01, and 0.1 dB due to the gain modulation of the unit caused by the HP 346C-K01 source impedance change in the ON and OFF state.

Typical Data

**S21**

![S21 Gain vs Frequency](image1)

**Noise Figure**

![Noise Figure vs Frequency](image2)

**Power Out @ 1dB Compression**

![Power Out @ 1dB Compression vs Frequency](image3)

**S21 Group Delay**

![S21 Group Delay vs Frequency](image4)

**S11**

![S11 Return Loss vs Frequency](image5)

**S22**

![S22 Return Loss vs Frequency](image6)
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Approx. Actual Size

Mounting Drawing

Drop In

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Rev: 8/7/2013